



Oil & Gas Industry Day

February 28, 2017

Utah State Tax Commission



Disclaimer

Forecasted numbers are opinions of value and are subject to significant economic factors unknown or not reported as of January 1, 2017.



Oil & Gas Production/Water Disposal

Discount Rate

Comparable Companies

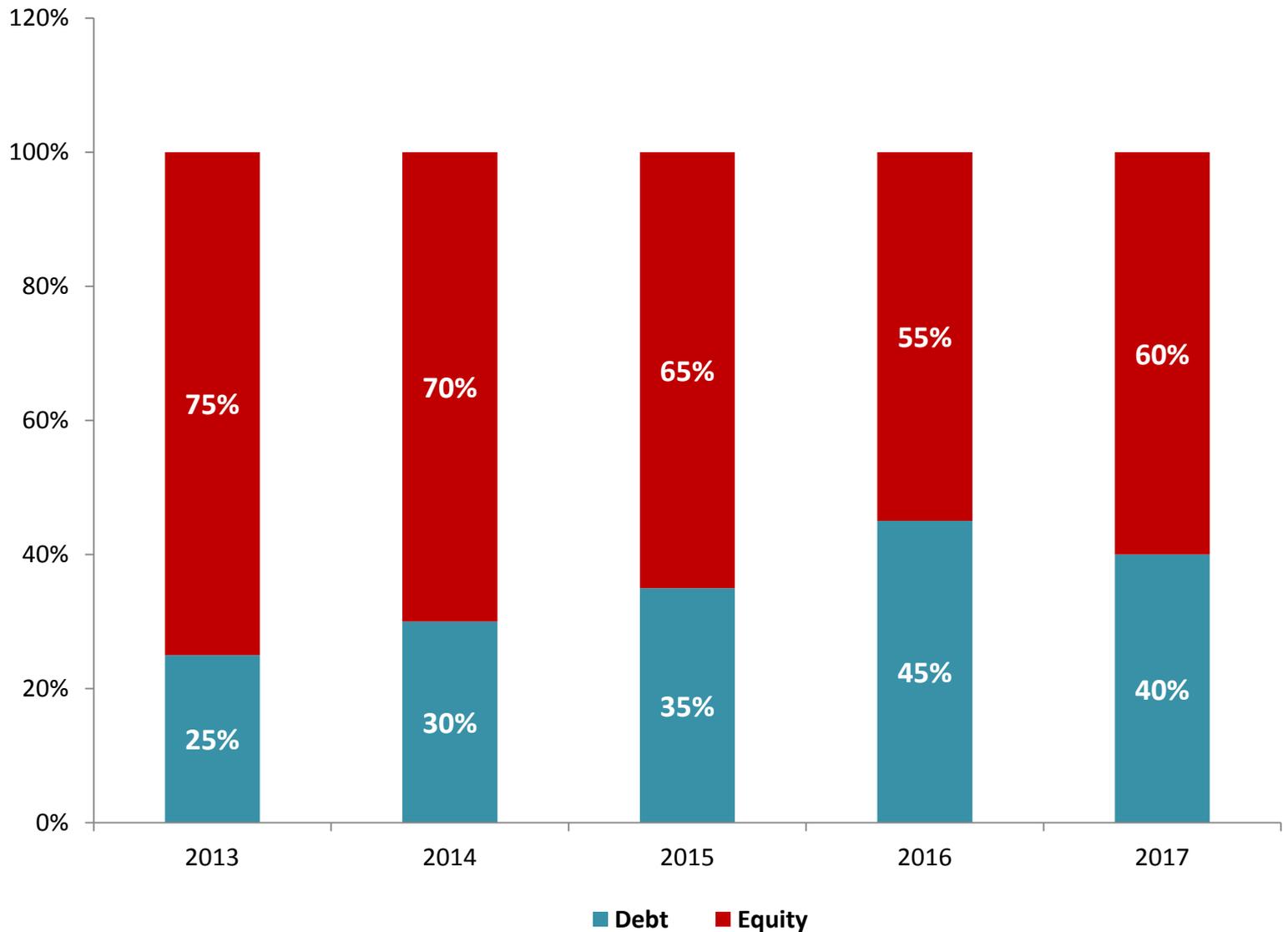
2016

- ABRAXAS PETROL
- BILL BARRETT
- BONANZA CREEK ENERGY
- CONTINENTAL RES
- EARTHSTONE ENERGY
- EMERALD OIL INC
- ENCANA CORP
- LEGACY RESERVES
- LINN ENERGY
- MATADOR RESOURCES
- NEWFIELD EXPLORATION
- PIONEER NATURAL RES
- QEP RESOURCES
- RESOLUTE ENERGY CORP
- ROYALE ENERGY INC
- SM ENERGY CO
- ULTRA PETROLEUM CORP
- WARREN RESOURCES
- WHITING PETROLUEM
- WPX ENERGY, INC

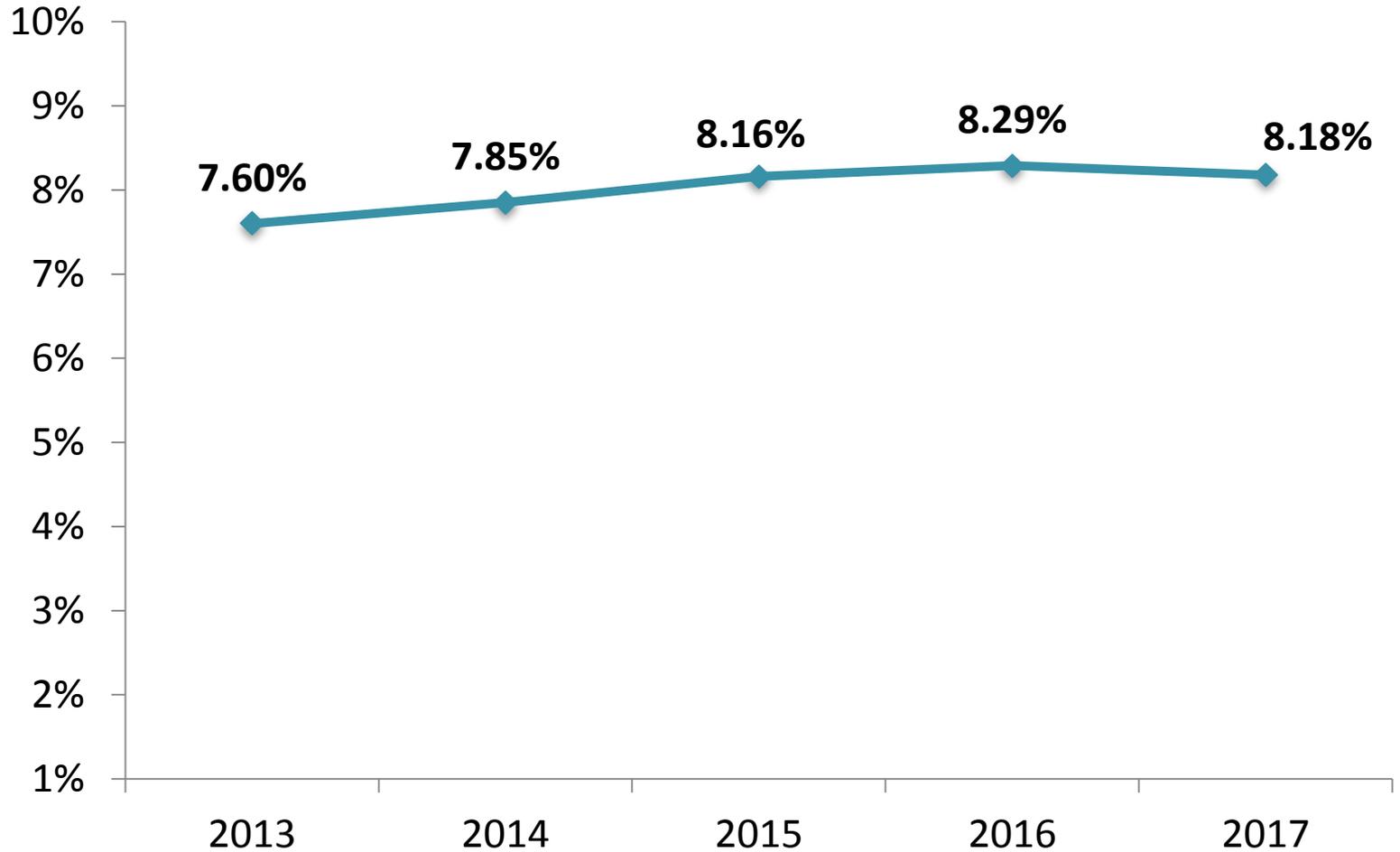
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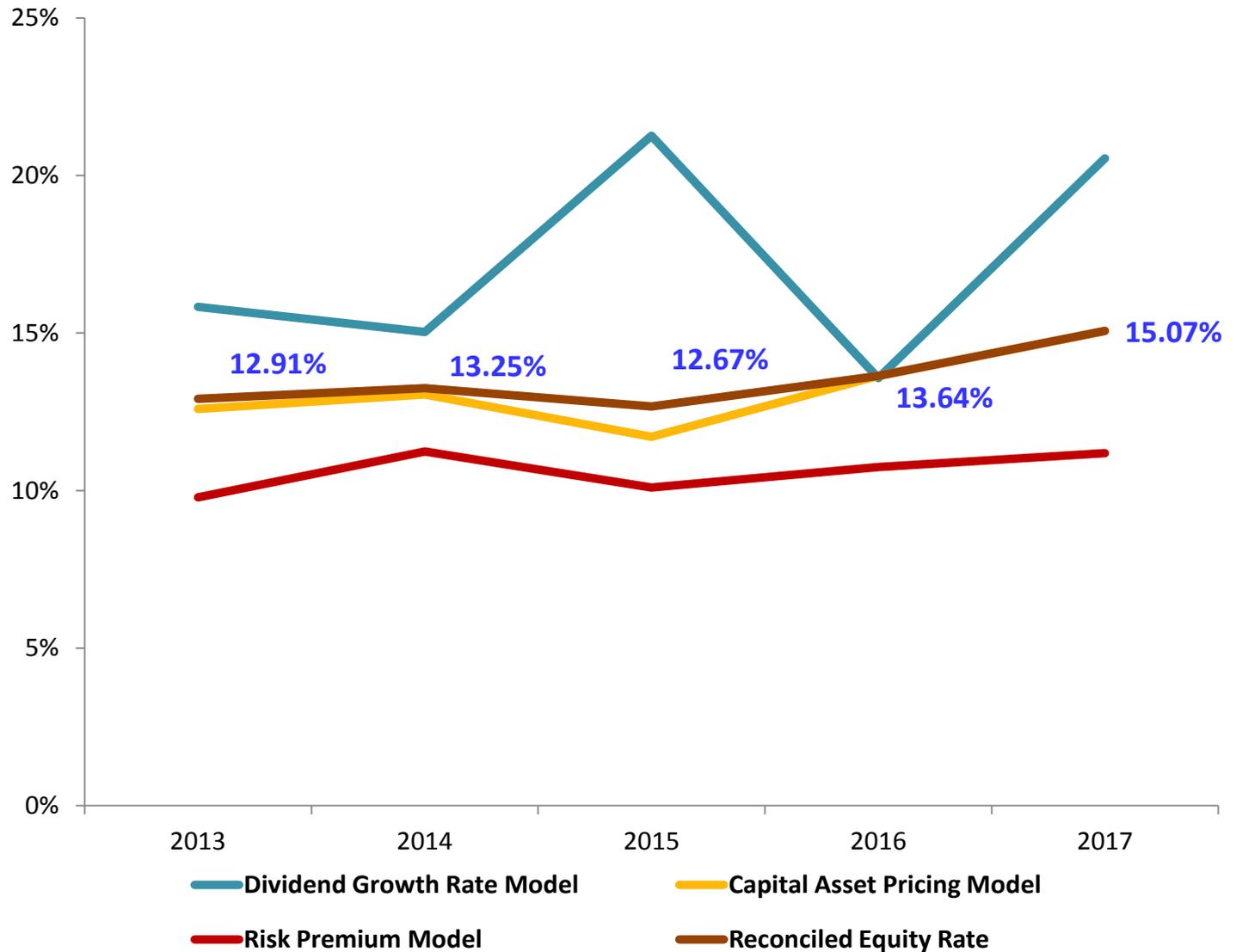
Five Year Capital Structure History



Five Year Debt Rate History



Five Year Equity Rate History



Production/WD Discount Rate

WEIGHTED AVERAGE COST OF CAPITAL DISCOUNT RATE CALCULATION

	RATE	CAPITAL STRUCTURE	WEIGHTED RATE
DEBT RATE (Caa1)	8.18%	40%	3.27%
EQUITY RATE	15.07%	60%	9.04%
BEFORE TAXES WACC			12.31%



Oil & Gas Gathering

Discount Rate

Comparable Companies

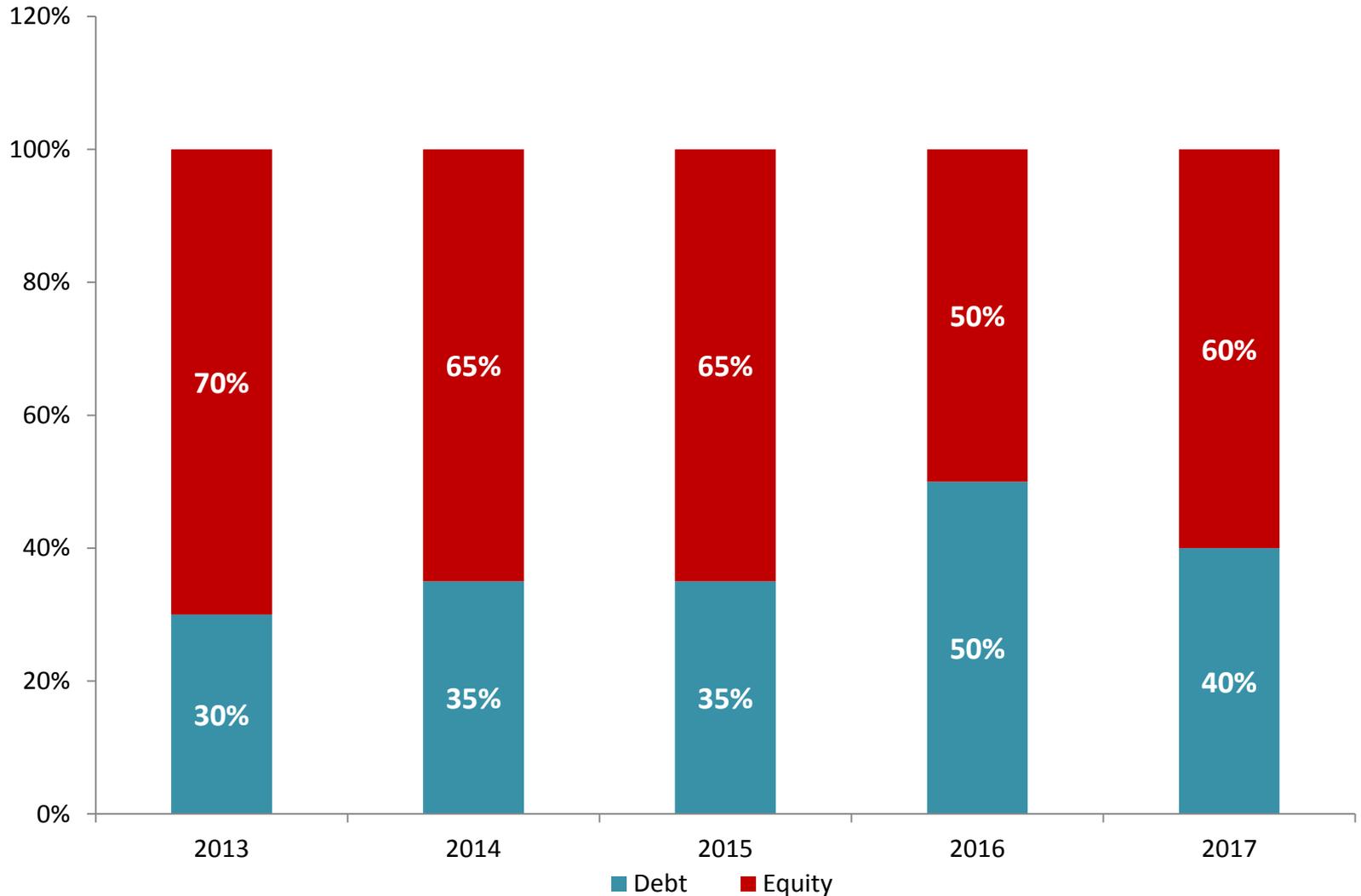
2016

- AZURE MIDSTREAM PTRS
- CRESTWOOD EQUITY PTRS
- ENERGY TRANSFER PTRS
- ENLINK MIDSTREAM PTRS
- ONEOK INC
- PLAINS ALL AMER. PIPE.
- SUMMIT MIDSTREAM PTRS
- TALLGRASS ENERGY PTRS
- WESTERN GAS PTRS
- WILLIAMS COS

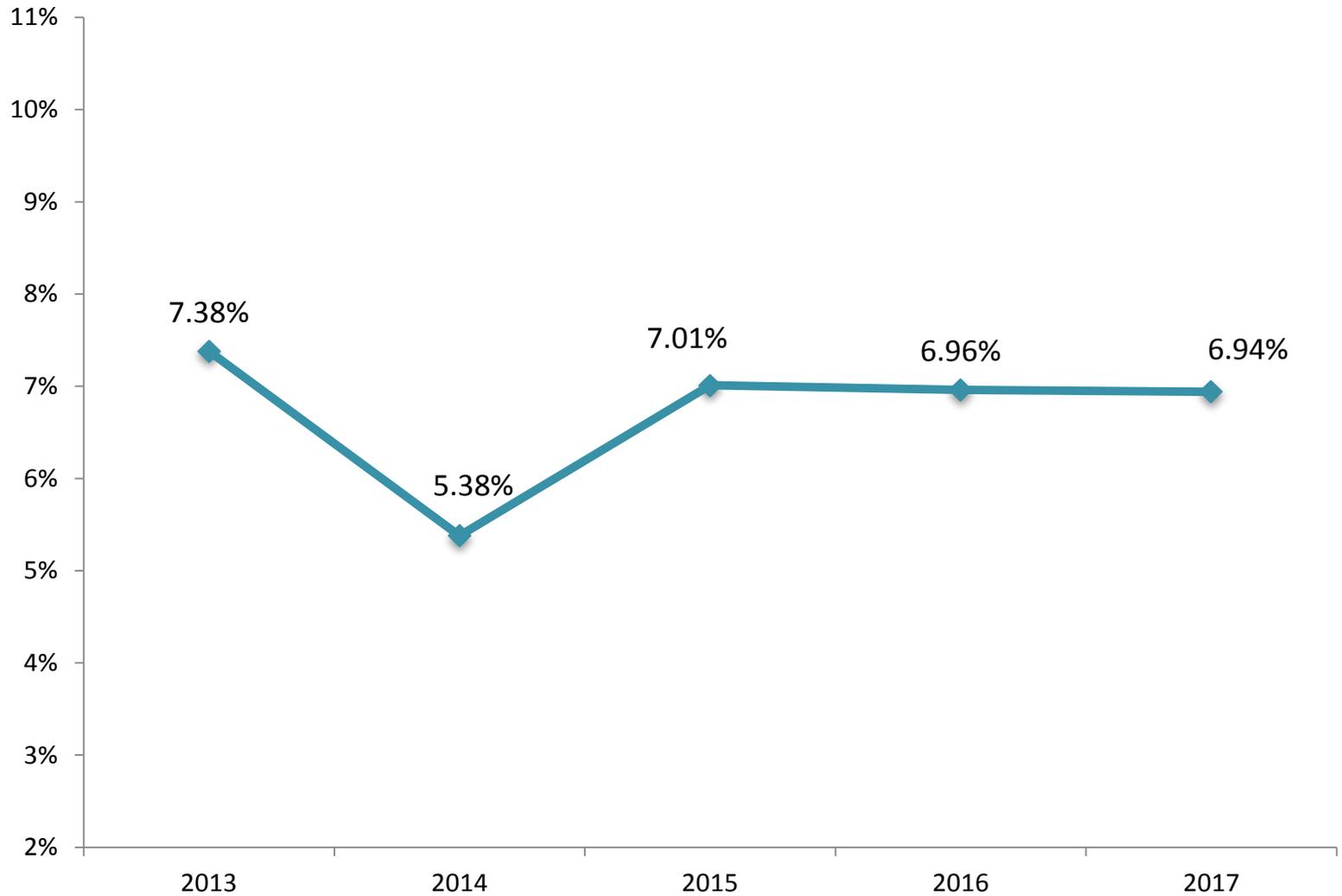
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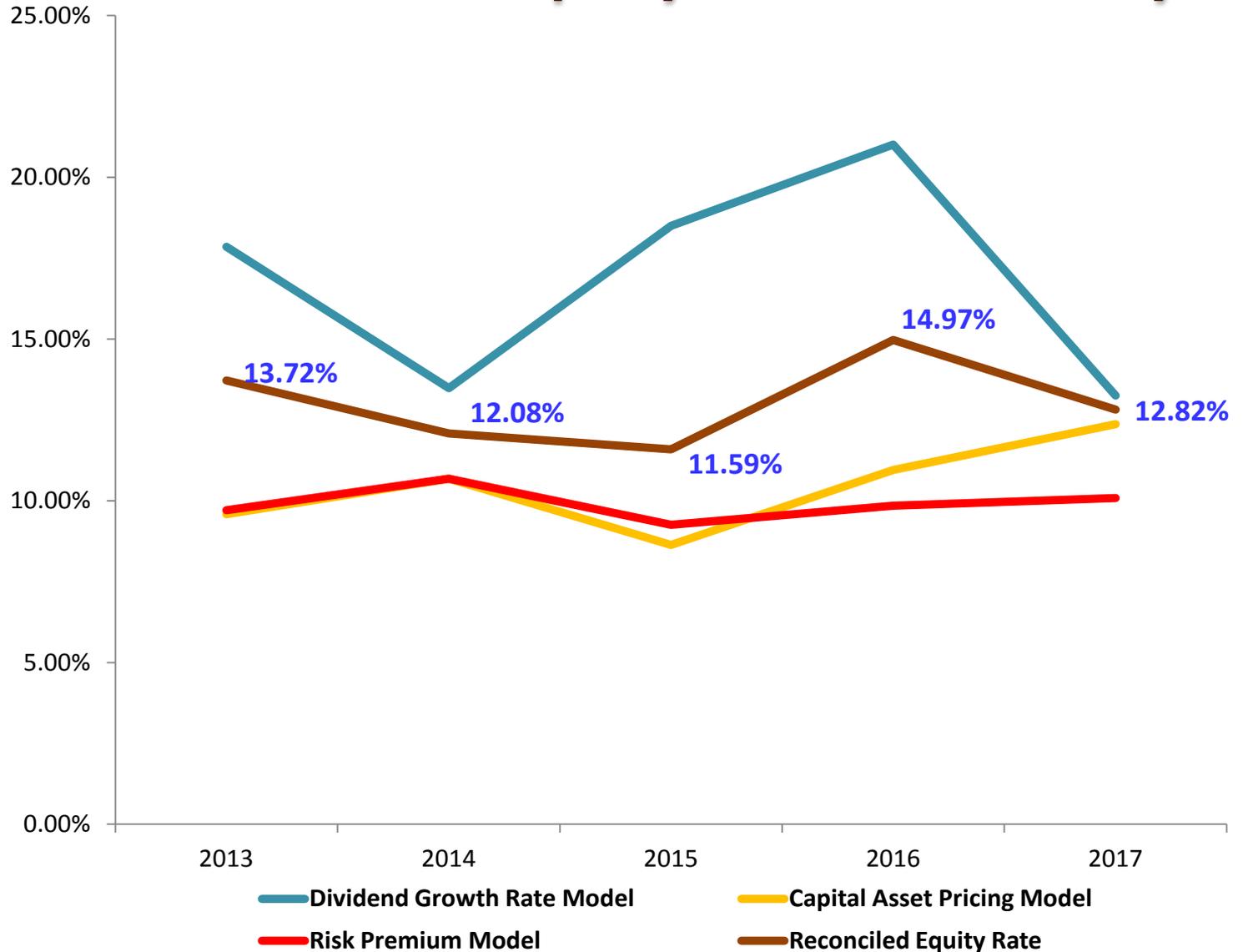
Five Year Capital Structure History



Five Year Debt Rate History



Five Year Equity Rate History



Gathering Discount Rate

WEIGHTED AVERAGE COST OF CAPITAL DISCOUNT RATE CALCULATION			
	RATE	CAPITAL STRUCTURE	WEIGHTED RATE
DEBT RATE (BaI)	6.94%	40%	2.78%
EQUITY RATE	12.82%	60%	7.69%
BEFORE TAXES WACC			10.47%



Oil Price Forecast



2016 Highlights

Global supply

- Oversupply slowed oil price increases.
- World oil production increased by 1.09 mil b/d.

WTI-Brent spread

- Averaged \$1/bbl.

US oil production

- Decrease of nearly 6.0% from 2015.
- Company scale back/leaner management.
- Rig count increased 60% since summer.

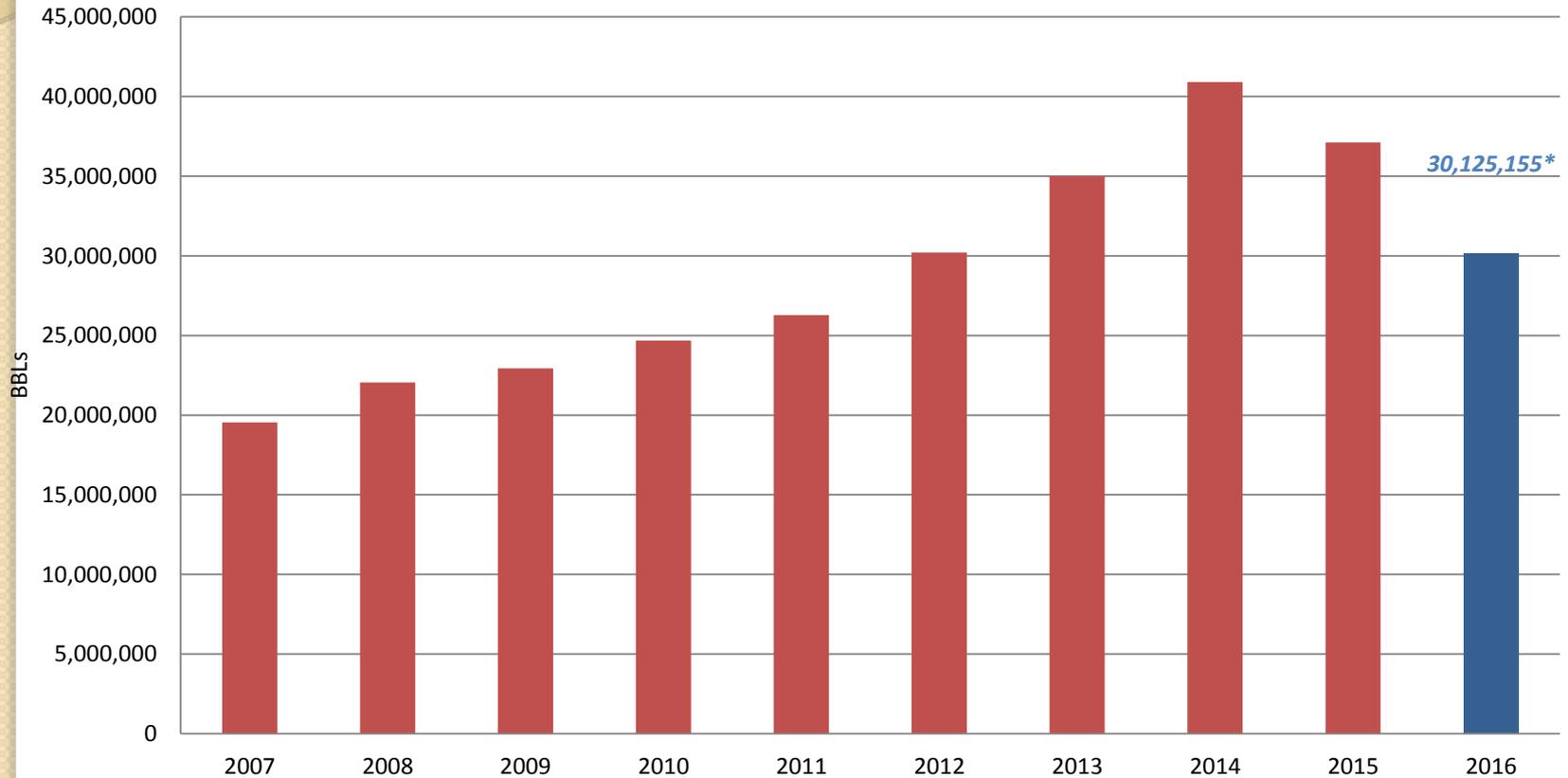
Oil price

- Oil prices doubled: Jan \$26.55 to Dec \$51.06.

2016 Utah – Oil Production

By Year

Oil Production

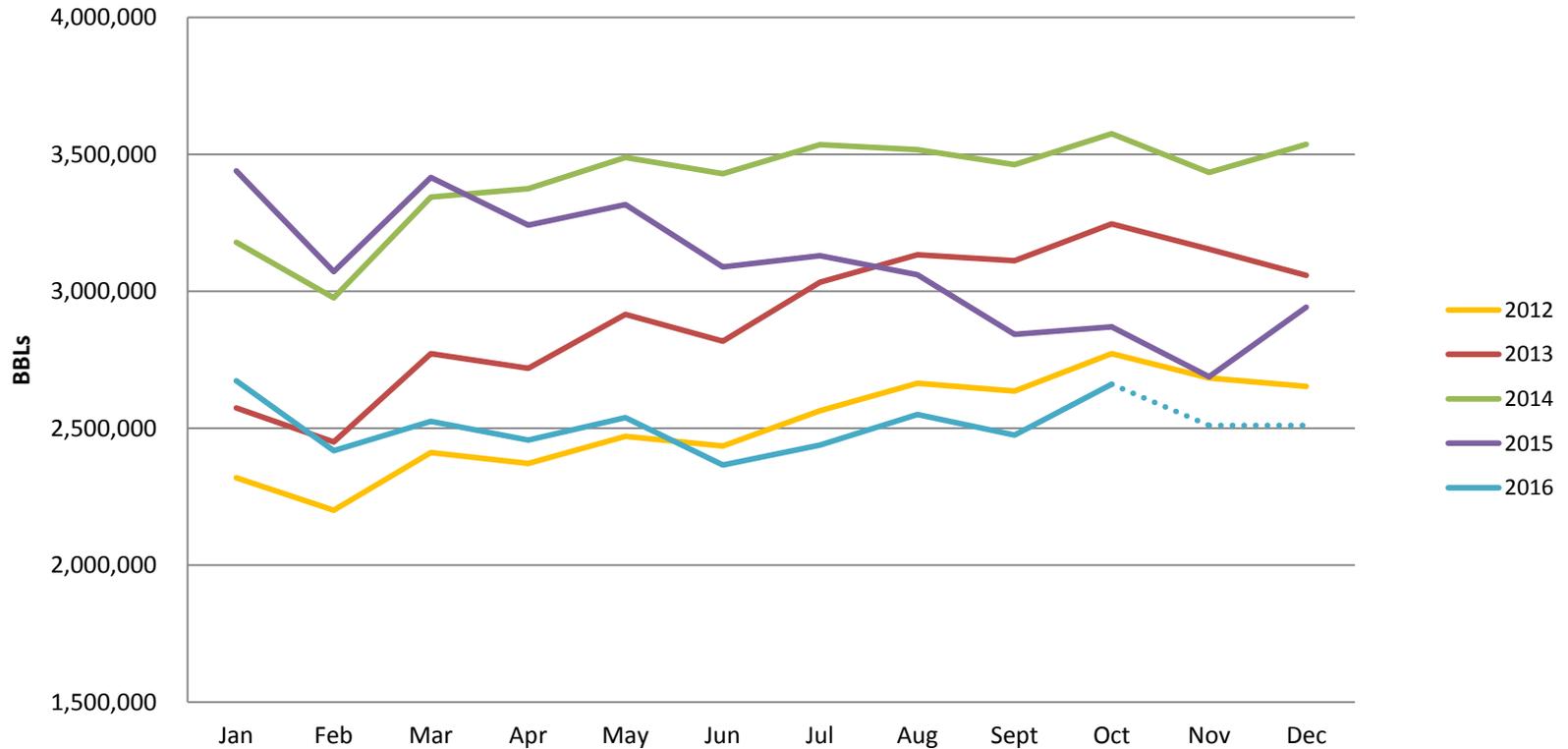


* 2016 production total was annualized after November.

2016 Utah – Oil Production

By Month

Oil Production



2017 Expectations

Supply

- Decrease due to OPEC agreement
- Increase due to shale oil production?
- President Trump pro energy

Demand

- Increase slowly in U. S.-Decrease slowly globally

U. S. Production

- 8.9 mil b/d 2016
- To 9 mil b/d 2017
- To 9.3 mil b/d 2018



59-2-201 (1)(a)

“Assessment of Property”

- By May 1st of each year the following property, unless otherwise except under the Utah Constitution or under Part II, Exemptions, Deferrals, and Abatements, shall be assessed at 100% of fair market value, as valued on January 1, in accordance with this chapter...



R884-24P-10 (A)(7)(a)

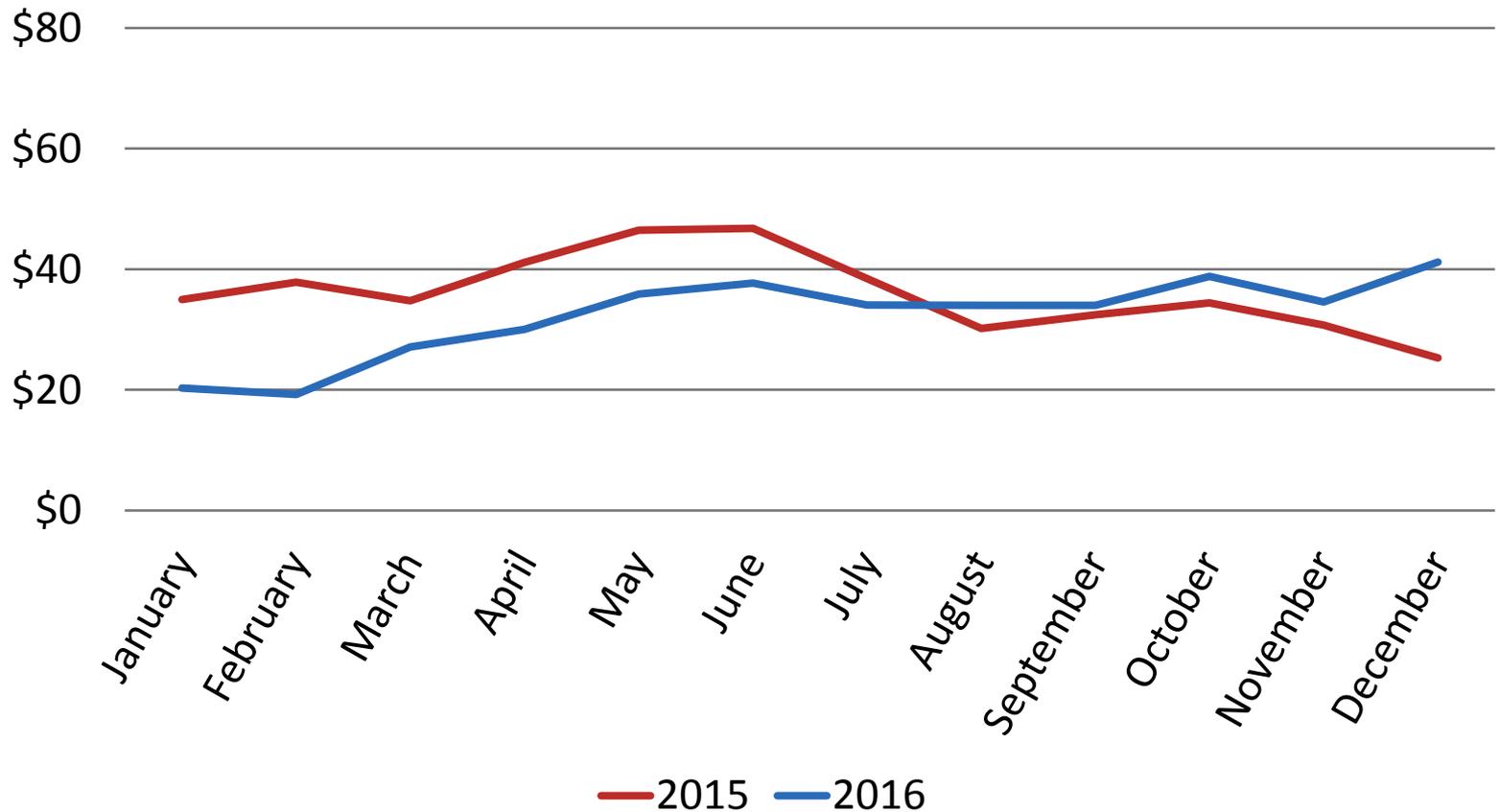
“Product Price”

- Starting price is the weighted average posted price of the previous year.

PARADOX BASIN/SWEET - "GIANT"

MONTH	POSTING DAYS	WEIGHTED PRICE 2016	PREVIOUS YEAR 2015	% CHANGE
January	31	\$20.29	\$34.98	-42%
February	28	\$19.22	\$37.86	-49%
March	31	\$27.10	\$34.76	-22%
April	30	\$30.02	\$41.12	-27%
May	31	\$35.90	\$46.47	-23%
June	30	\$37.71	\$46.76	-19%
July	31	\$34.07	\$38.44	-11%
August	31	\$34.01	\$30.19	13%
September	30	\$33.99	\$32.43	5%
October	31	\$38.83	\$34.42	13%
November	30	\$34.58	\$30.75	12%
December	31	\$41.18	\$25.29	63%
Year End Weighted Average Price \$/BBL		\$32.24	\$36.12	-11%

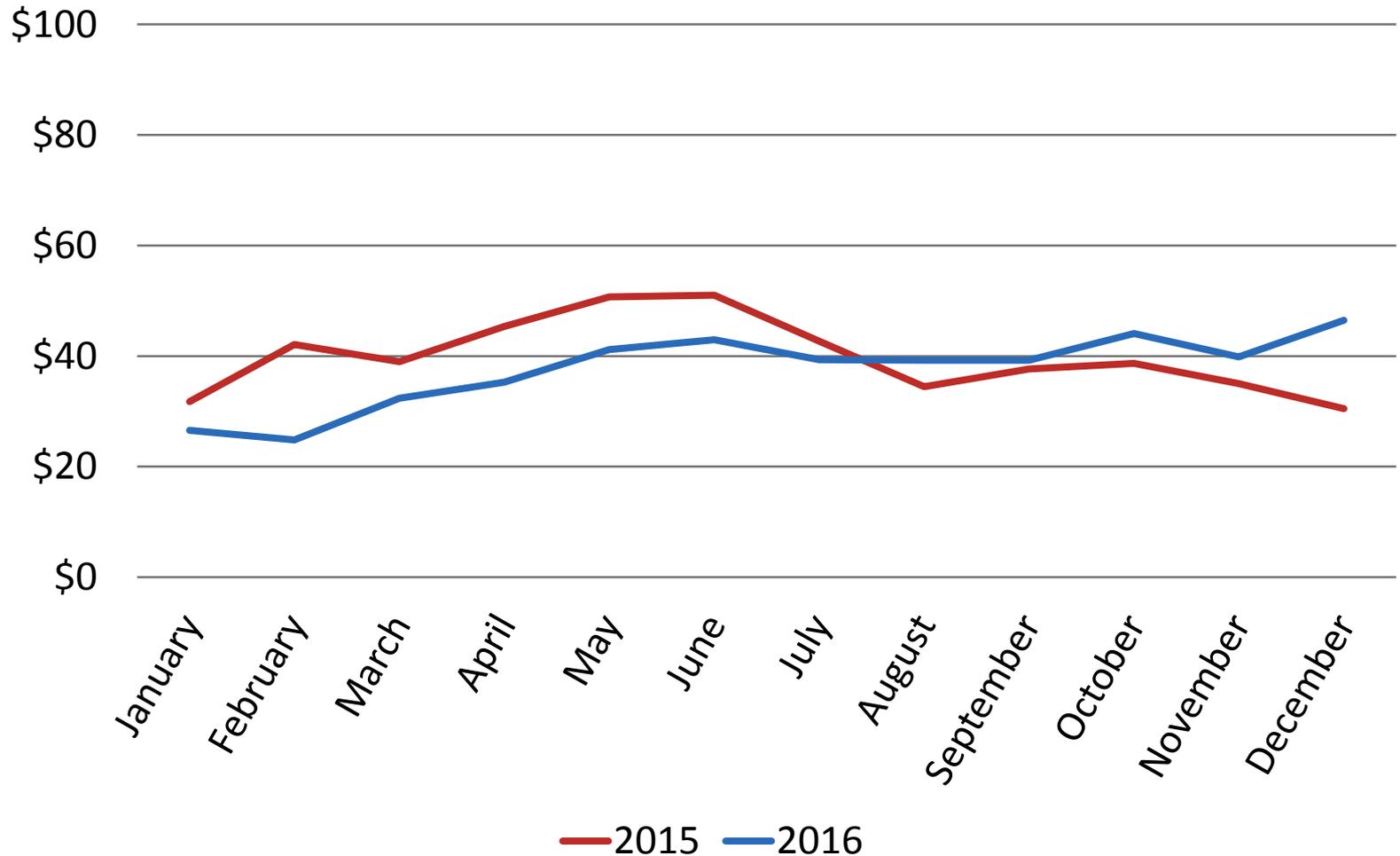
Weighted Crude Oil Posted Prices Paradox Basin/Sweet – “Giant”



UINTA BASIN BLACK WAX - "CHEVRON"

MONTH	POSTING DAYS	WEIGHTED PRICE 2016	PREVIOUS YEAR 2015	% CHANGE
January	31	\$26.54	\$31.77	-16%
February	28	\$24.85	\$42.11	-41%
March	31	\$32.35	\$39.01	-17%
April	30	\$35.27	\$45.37	-22%
May	31	\$41.15	\$50.72	-19%
June	30	\$42.96	\$51.01	-16%
July	31	\$39.32	\$42.69	-8%
August	31	\$39.26	\$34.44	14%
September	30	\$39.24	\$37.68	4%
October	31	\$44.08	\$38.67	14%
November	30	\$39.83	\$35.00	14%
December	31	\$46.46	\$30.46	53%
Year End Weighted Average Price \$/BBL		\$37.61	\$39.91	-6%

Weighted Crude Oil Posted Prices Uinta Basin Black Wax



Sources Considered - Oil Price Forecasting

U.S. EIA – United States Energy Information Administration

- Short Term Outlook (STO) & Annual Energy Outlook (AEO)

EIU – Economist Intelligence Unit

Economic and Commodity Prices Forecast

NYMEX (CME Group) – New York Mercantile Exchange for futures prices

Sproule Associates – Petroleum consultants annual forecast

AJM Deloitte – Petroleum consultant company annual forecast

Texas Comptroller – Texas state's chief tax collector, accountant, revenue estimator and treasurer

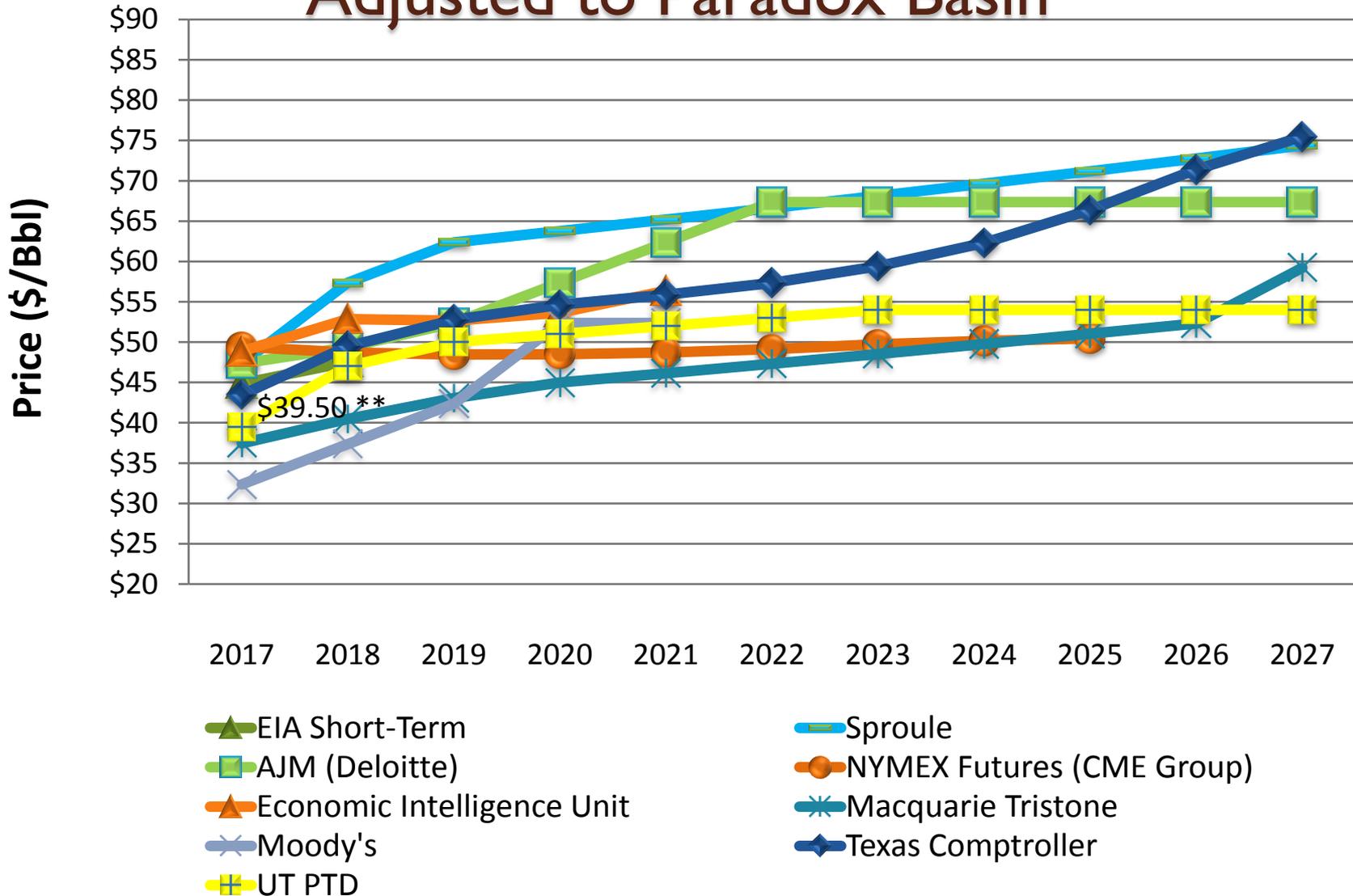
Macquarie Tristone – Energy lenders' price forecast survey

Moody's –Investor service forecast

Paradox Basin Differential

Crude Oil Pricing Differentials Paradox Basin	
Sources	2017
Flint Hills	7.58
Phillips 66	7.71
Plains Marketing, L.P.	7.59
Shell Trading	7.71
Valero	7.60
AVERAGE	7.64

2017 Oil Price Forecast Adjusted to Paradox Basin



**For the 2017 assessment year, in order to achieve fair market value as stated in the Utah State Tax Code 59-2-201 (1)(a), the Property Tax Division deviated from R884-24P-10 (A)(7)(a) and reconciled the price for oil. 29

2017 Oil Price Forecast Paradox

2 Std deviation High & Low Out



- Paradox Posted Prices
- 2 std dev high
- ▲ Forecast
- Weighted Average Price of 2016
- Spot Price adjusted to 2 std dev
- 2 std dev low
- ▲ WTI Spot Price

2017 Oil Price Forecast

2017 Oil Price Forecast

Paradox Basin

Forecast of 10 Year's Prices

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Average Weighted Price of Previous Year	36.12	32.24										
WTI Spot Price (1/3/2017)		48.82										
Forecast with High & Low to 2 std dev		39.50	47.00	50.00	51.00	52.00	53.00	54.00	54.00	54.00	54.00	54.00
% Increase / Decrease			19.0%	6.4%	2.0%	2.0%	1.9%	1.9%	0.0%	0.0%	0.0%	0.0%

2017 Oil Price Forecast

Black Wax

Forecast of 10 Year's Prices

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Average Weighted Price of Previous Year	39.91	37.61										
WTI Spot Price (1/3/2017)		54.10										
Forecast with High & Low to 2 std dev		44.78	53.28	56.68	57.82	58.95	60.08	61.22	61.22	61.22	61.22	61.22
% Increase / Decrease			19.0%	6.4%	2.0%	2.0%	1.9%	1.9%	0.0%	0.0%	0.0%	0.0%

Conclusion

“Always expect the unexpected. The oil and gas industry is terrible at predicting anything. Always have a back-up plan.”

David Dixon



Shell – Production Technologist



Natural Gas Price Forecast 2017



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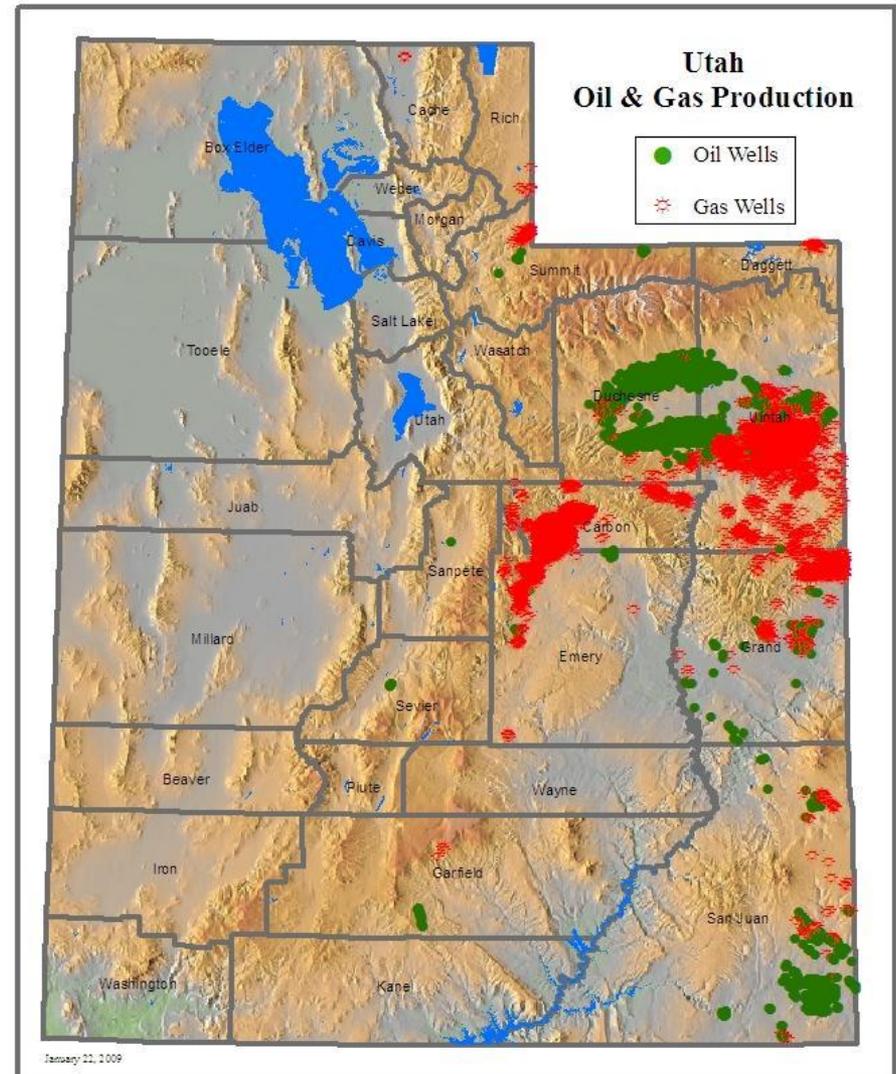
2016 Summary

- Production decline
- Price recovery
- Average share of U.S. utility-scale electricity generation from natural gas was 34%

Utah - 2017

Data Analysis:

- Supply
- Demand
- Weather

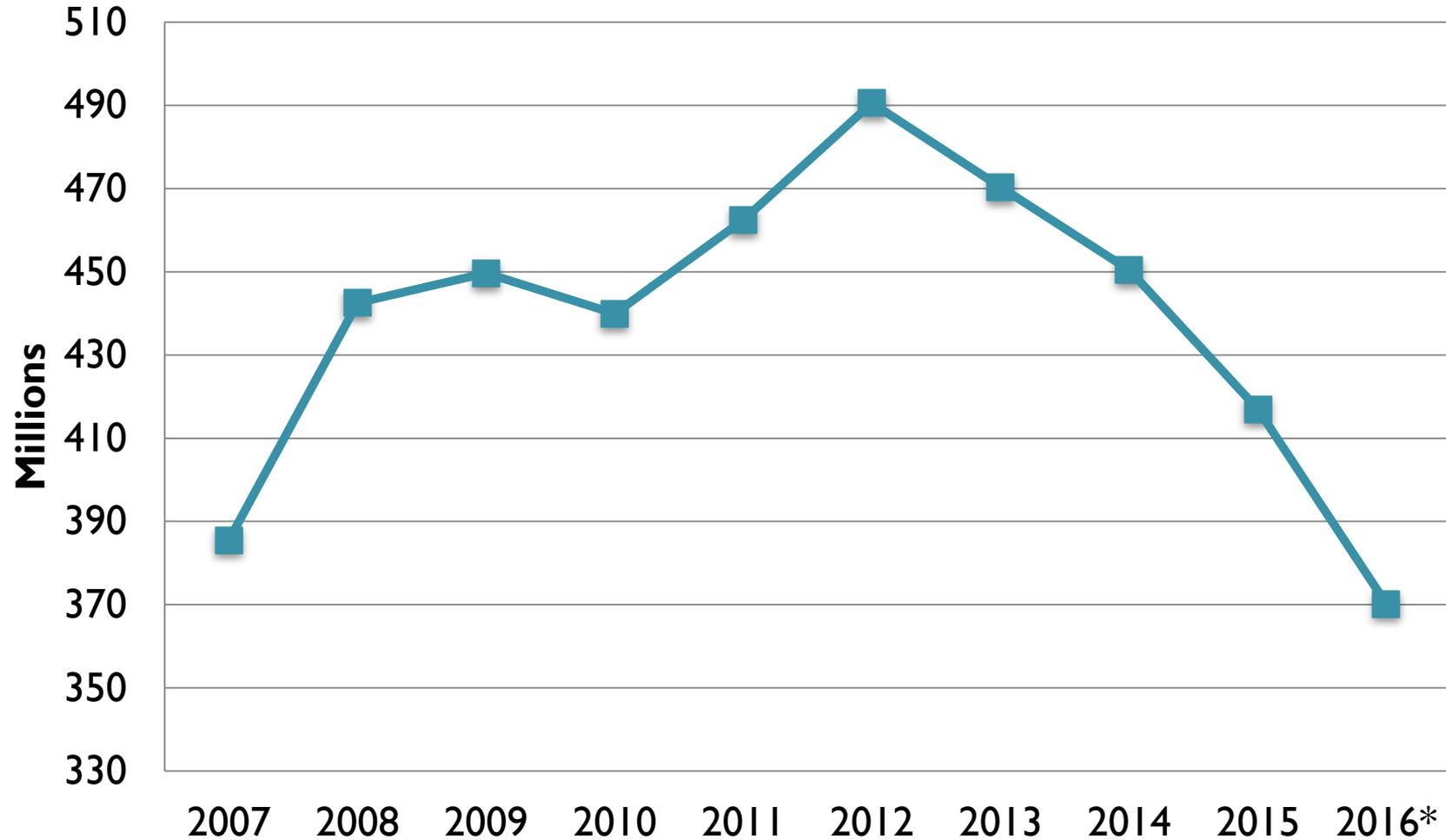


2016 Utah – Drilling Commenced

County	2016	2015	2014	2013
Beaver	0	0	0	1
Carbon	0	8	26	2
Daggett	0	0	0	1
Duchesne	27	37	433	442
Emery	0	0	1	3
Grand	0	0	15	9
Juab	0	1	2	0
Millard	0	1	2	2
Rich	0	1	0	0
Salt Lake	1	0	0	0
San Juan	0	0	4	19
Sevier	2	1	1	0
Uintah	48	105	413	527
Total	79	155	898	1006

2016 Utah Dry Gas Production

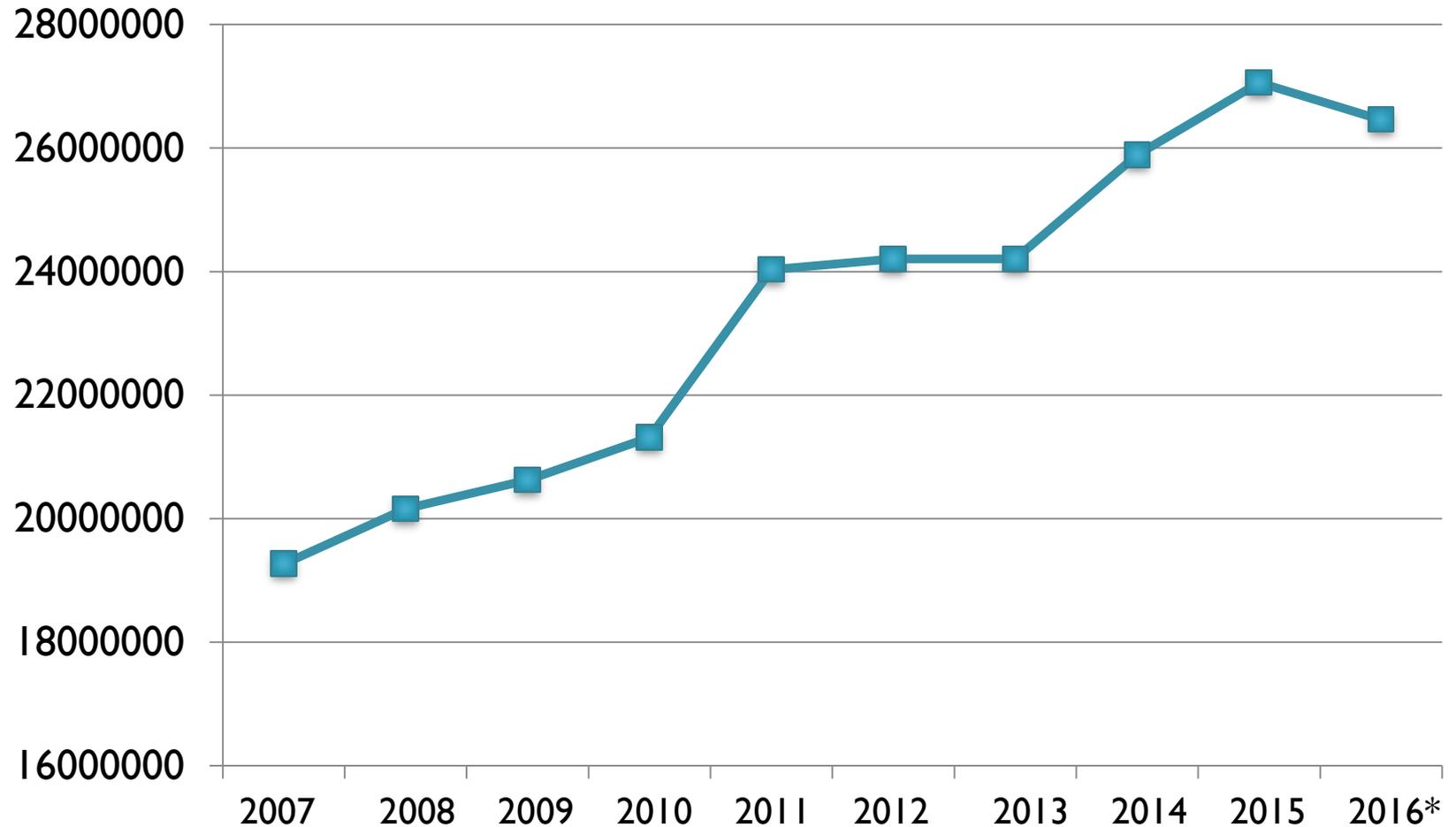
Dry Gas Production by Year (MCF)



*The production for 2016 is annualized

2016 National - Production

USA Dry Gas Production (MCF)

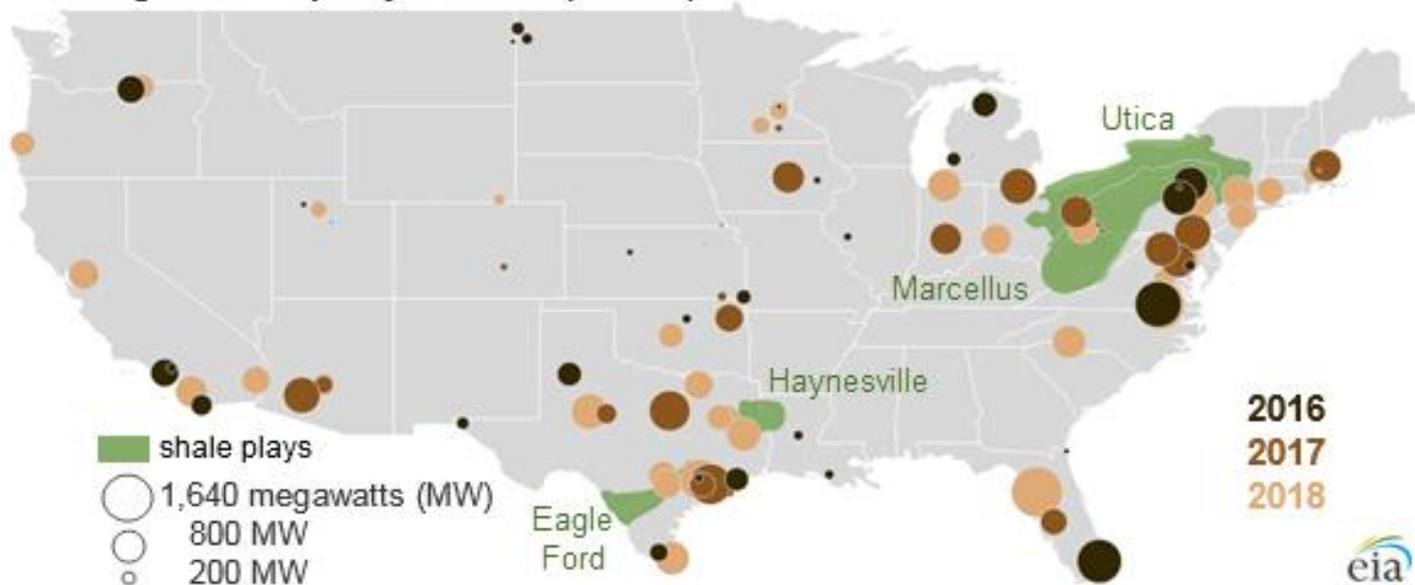


*The production for 2016 is annualized

Demand

- U.S. became a net exporter of natural gas
- Natural gas-fired plants under construction

Natural gas-fired capacity additions (2016-18)



Weather

National Weather Service Forecast:

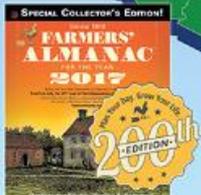
Cold: Northern Plains, Upper Midwest, New England, New York state, West Coast

Warm: Southern Plains, Southeast



FARMERS' ALMANAC
Since 1818

2017 WINTER OUTLOOK



“Cold Man Winter did seem to be on vacation last year thanks to a very strong El Nino, but this year he’s back...”

– Editor Peter Geiger, Philom

Natural Gas Price Forecast



59-2-201 (1)(a)

“Assessment of Property”

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Natural Gas Price Forecast



R884-24P-10 (A)(7)(b)

“Product Price”

- Starting price, as defined by Utah Tax Code, is:
 - (1) If sold under contract, the price shall be the stated price.
 - (2) If sold otherwise, the price shall be the weighted average price.

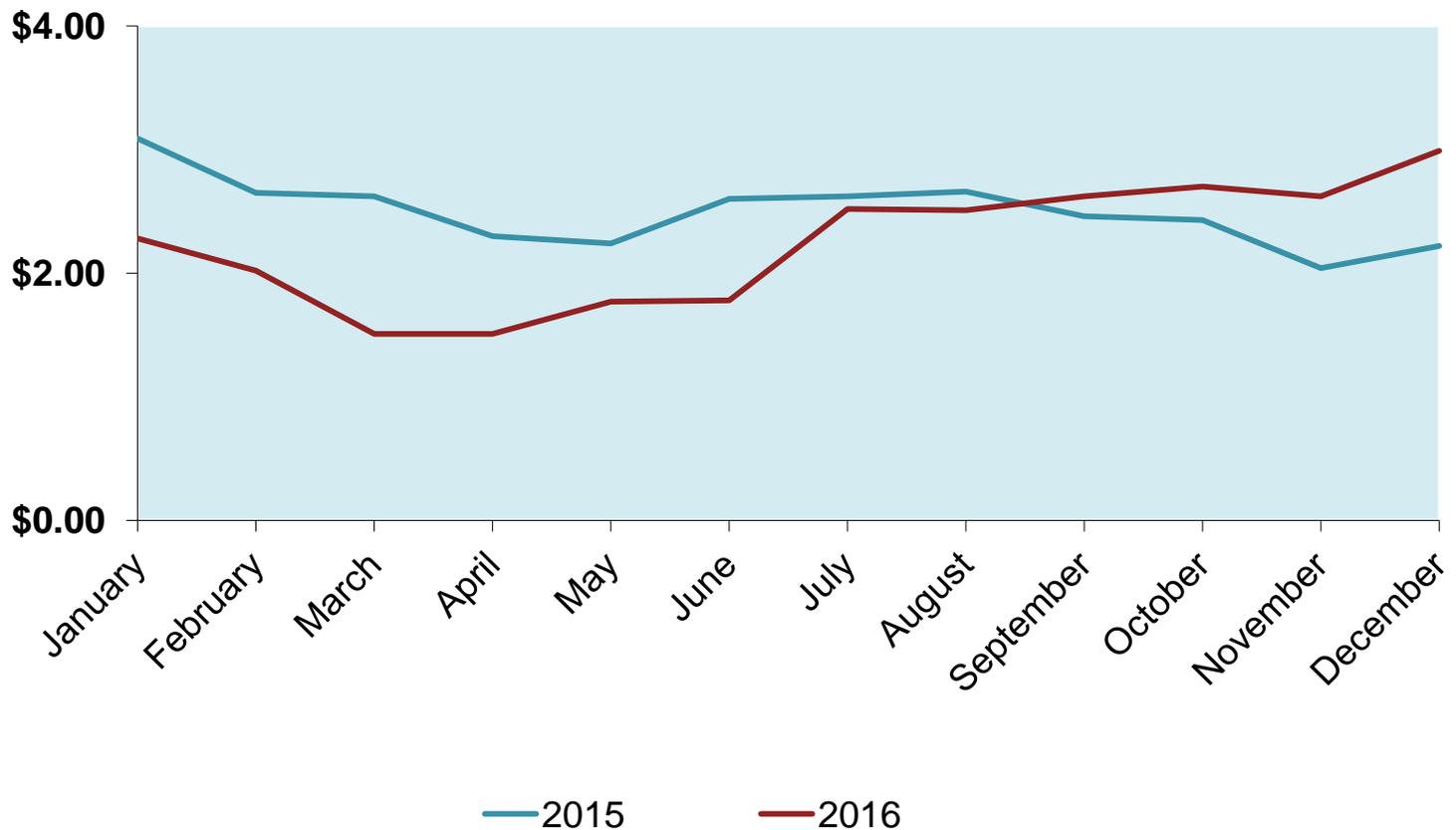
Year End Percent Change

NORTHWEST PIPELINE - OPAL, WYOMING

MONTH	POSTING DAYS	WEIGHTED PRICE 2016	PREVIOUS YEAR 2015	% CHANGE
January	31	\$2.28	\$3.09	-26%
February	28	\$2.02	\$2.65	-24%
March	31	\$1.51	\$2.62	-42%
April	30	\$1.51	\$2.30	-34%
May	31	\$1.77	\$2.24	-21%
June	30	\$1.78	\$2.60	-32%
July	31	\$2.52	\$2.62	-4%
August	31	\$2.51	\$2.66	-6%
September	30	\$2.62	\$2.46	7%
October	31	\$2.70	\$2.43	11%
November	30	\$2.62	\$2.04	28%
December	31	\$2.99	\$2.22	35%
Year End Weighted Monthly Average Price (\$/MCF)		\$2.24	\$2.49	-10%

Weighted Spot Prices

Opal Northwest Pipeline



Sources Considered - Natural Gas Price Forecast

- ▶ U.S. EIA – United States Energy Information Administration
Short Term Outlook (STO) & Annual Energy Outlook (AEO)
- ▶ International Monetary Fund – Organization of 189 countries promoting global economic stability
- ▶ Bank of America (Merrill Lynch) – Provides global banking solutions to individuals, corporate, institutional, and government clients
- ▶ Societe Generale – French multinational banking and financial services
- ▶ Kinder Morgan – Largest energy infrastructure company in U.S.
- ▶ NYMEX (CME Group) – New York Mercantile Exchange for futures prices
- ▶ Sproule Associates – Petroleum consultants annual forecast
- ▶ AJM Deloitte – Petroleum consultant company annual forecast
- ▶ Texas Comptroller – Texas state's chief tax collector, accountant, revenue estimator and treasurer
- ▶ Macquarie Tristone – Energy lenders' price forecast survey
- ▶ World Bank – Group of 5 development institutions

2017 Expectations

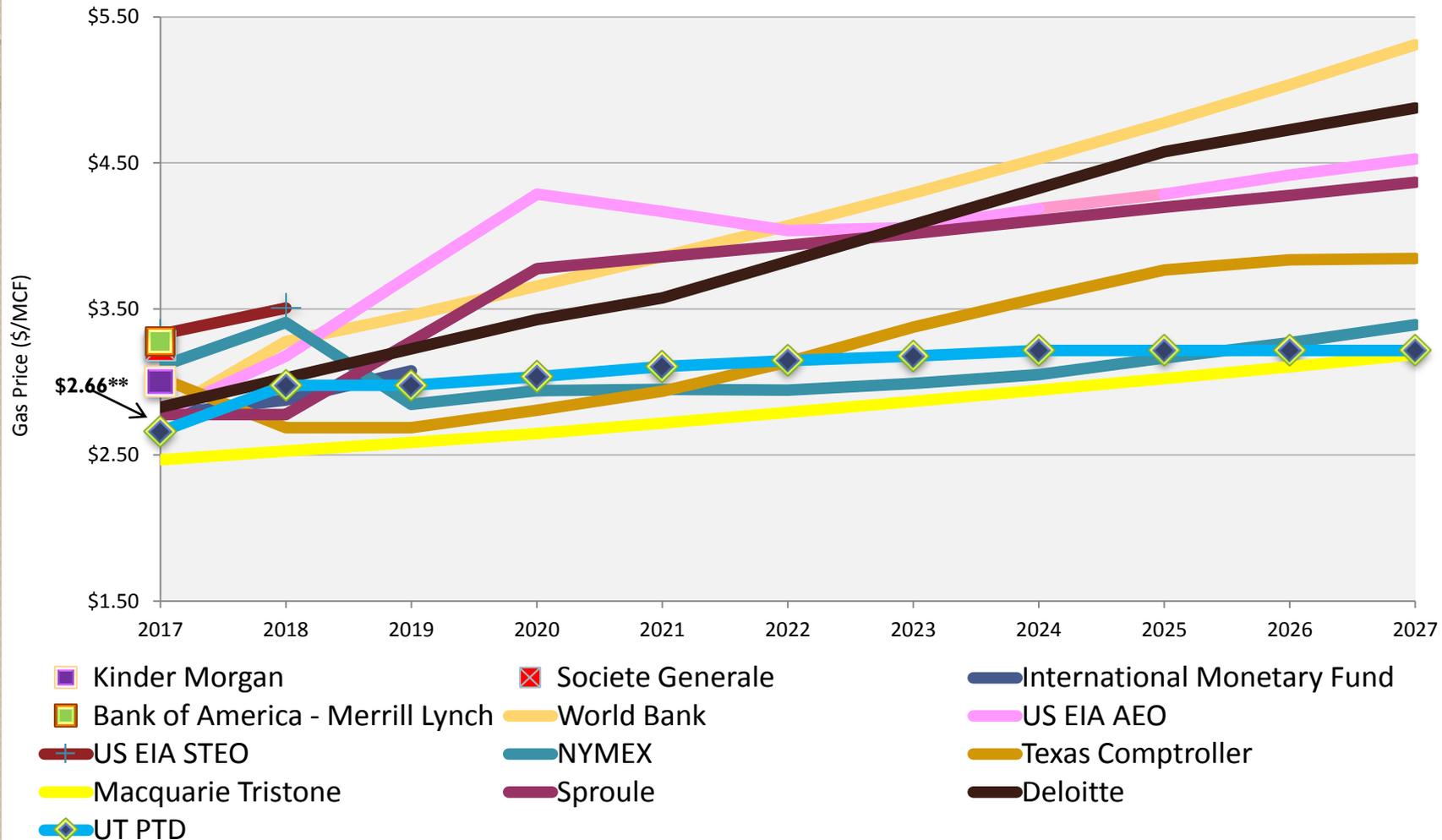
- Demand increase
 - exports & domestic
- Stable production
- Inclement weather

Henry Hub / Opal Differential

2017 Gas Price Regression Analysis

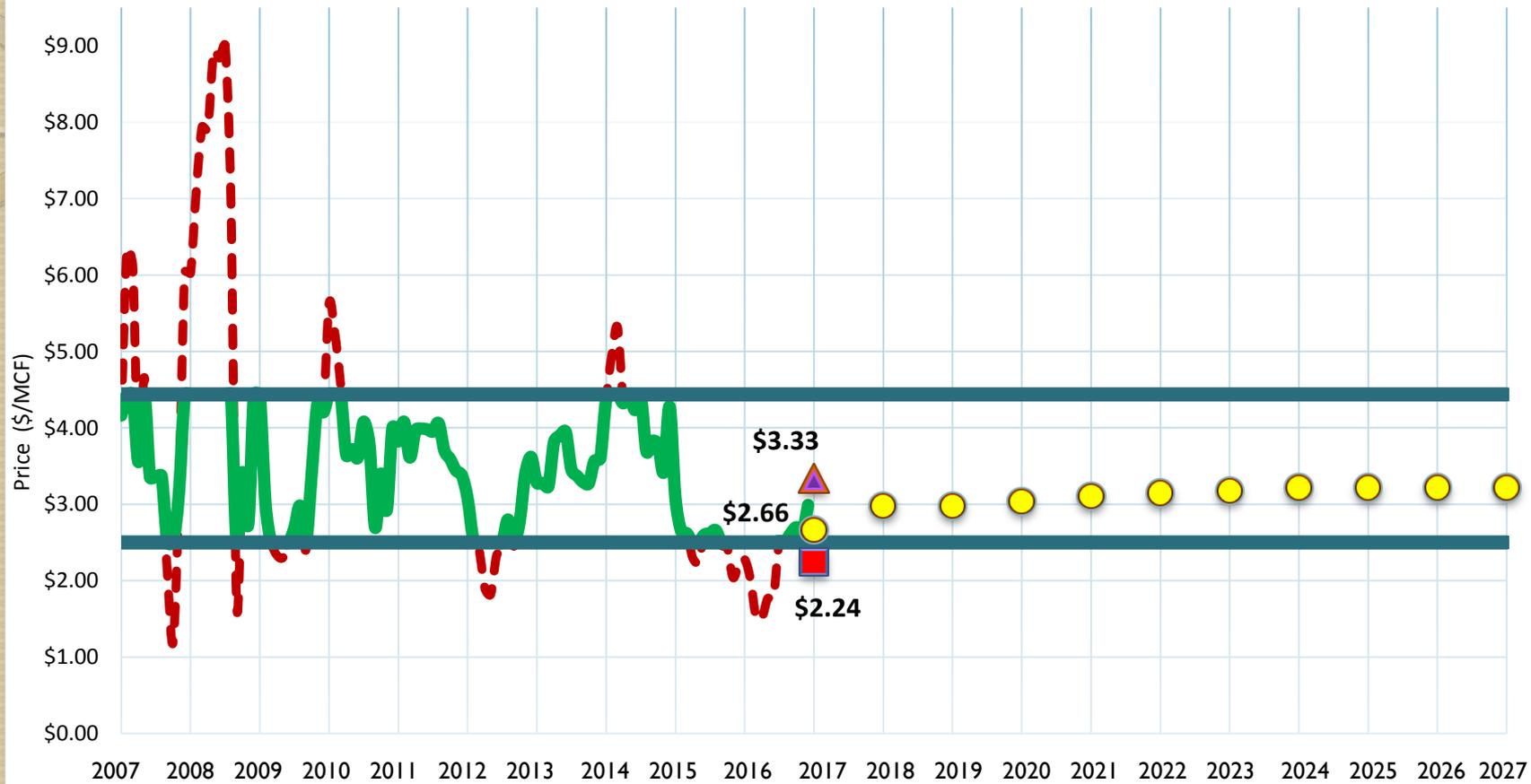
Year	Henry Hub Gas Prices	Opal Gas Prices	Differential	Month
2016	2.38	2.28	0.1	January
	2.19	2.02	0.17	February
	1.70	1.51	0.19	March
	1.90	1.51	0.39	April
	1.99	1.77	0.22	May
	1.96	1.78	0.18	June
	2.92	2.52	0.4	July
	2.67	2.51	0.16	August
	2.85	2.62	0.23	September
	2.95	2.70	0.25	October
	2.77	2.62	0.15	November
	3.23	2.99	0.24	December
AVERAGE				
1 year	2.46	2.24	0.22	

2017 Gas Price Forecast Adjusted to Opal, Wyoming



**For the 2017 assessment year, in order to achieve fair market value as stated in the Utah State Tax Code 59-2-201 (1)(a), the Property Tax Division deviated from R884-24P-10 (A)(7)(b) and reconciled the price for gas.

2017 - Gas Price Outlook 2 Standard Deviations High and Low Out



--- Opal Spot Price

— Spot Price Adjusted to 2 Std Dev

— 2 Std. Dev High

— 2 Std. Dev. Low

● Current Forecast

▲ NYMEX Spot Price

■ Average Price - 2016

2017 Gas Price Forecast

2017 Gas Price Forecast

Opal, Wyoming

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Average Weighted Price of Previous Year	\$2.49	\$2.24										
NYMEX Spot Price <small>(1/3/2017)</small>		\$3.33										
Forecast with High & Low to 2 std dev		\$2.66	\$2.98	\$2.98	\$3.04	\$3.11	\$3.15	\$3.18	\$3.22	\$3.22	\$3.22	\$3.22
% Increase / Decrease			11.9%	0.0%	2.0%	2.3%	1.3%	1.0%	1.3%	0.0%	0.0%	0.0%